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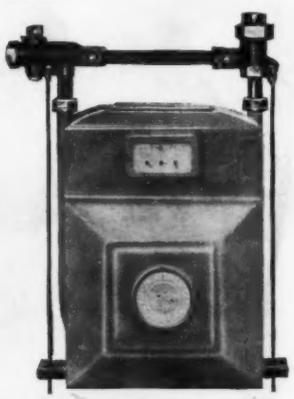

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Faced with the certainty of an inadequate supply of anthracite coal and consequently poorer quality, domestic consumers everywhere are turning to COKE as the ideal fuel for house-heating.

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American Gas Journal

SIXTY-THIRD YEAR

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Public Relations and the Newspapers

GOOD WILL AN ESSENTIAL ASSET OF A PUBLIC UTILITY COMPANY—USING THE NEWSPAPERS TO IMPROVE PUBLIC RELATIONS

M. S. Sloan, President of the Brooklyn Edison Co.

In this address, which was delivered before the third annual meeting of the Commercial Section of the Empire State Gas and Electric Association, held at Briarcliff Manor, N. Y., June 28 and 29, 1923, Mr. Sloan presented a highly important message of interest to the entire public utility industry and to the gas industry in particular. He called attention to the important position that can be played by the newspapers in transmitting messages, in distributing information regarding the public utility industry, and described the work that was being done by the New York State Committee on Public Utility Information along these lines. The importance of the public utility itself supplying the information and of lending its aid in persuading newspaper editors to assign adequate space in the newspaper columns was particularly strongly emphasized. The aid of the commercial men of the industry is desired.

It is coming to be generally recognized that a public utility company is just as good as its public relations, but never any better. The company, or the industry of which it is a part, may be sound and in good condition financially. It may be giving good service, from the operating end, and able to continue to do so. It may have excellent engineers and lawyers. Its management and owners may be thoroughly satisfied with its condition—and yet it may lack the most important element for continued success, the good-will and approval of the public.

If for any reason it lacks that element, the foundation is built on shifting sand. The importance of the public's good-will cannot be over-estimated. There was a time when this was not the prevailing opinion in the utility industry, as I feel sure it is today. In those days the public, so far as its opinions—and I might even say its rights—were concerned, did not enter greatly into the calculations and operations of the utilities. That was the period of organizing and floating the utilities, when electricity was a venture and even gas, much older, was by no means a stable commercial proposition in most communities. The chief concern in those days was to get franchises and financial structures which would enable the utilities to pay profits to their organizers and the bankers who backed them. And in even a later period, when the properties had become larger, and for the most part strong financially, when they were giving good service—for those days—the participation of the public consisted in supplying the revenue.

The public got tired of this, and I can't blame it. After all, our companies exist by grace of the public. Our franchises, granting us the right to use public property which is essential in our operations, impose on us the duty of very definite service, and carry with them the responsibility of establishing and retaining the good opinion of the people who have our existence in their keeping. It would be unwholesome, and a reflection on the intelligence of any person connected with the utilities, if he lost sight for one moment of the fact that the public tells us, and has the power and the right to tell us, just how to run this industry. Literally, though perhaps not so directly, we are as much public employees as any elected official, and it behooves us not only to satisfy, but to please this big boss of ours, the public.

The Public Not a Mysterious, Malign Force

For that reason, and because every question of our operations has in it this element of necessity for satisfying and pleasing the public, our national associations have their committees on public relations or public policy; and whole sessions of their national conventions are given over to a discussion of how best to do it. There isn't anything especially difficult in learning how to do this. When we get to talking about the public, and what it wants and what it will do if it doesn't get what it wants, we sometimes visualize the public as a mysterious, rather malign force. It isn't. The public is just people—you and I, our friends and neighbors, and a lot of others just about as good and as bad as we are. We know we're fair and reasonable—If some-

body doesn't rub us the wrong way. That is just as true of all the other millions who make up this group, the public. Therefore, to satisfy and please the public, there are three things every utility must do: Give as good service as possible; give as cheap service as possible; tell the public all about it. And there is one big thing no utility ever should do; rub the public the wrong way in any phase of its activities.

Obviously good service and as cheap service as possible are essentials to the maintenance of good public relations. There is no debate on that. But telling the public about it is equally important. The light that is set on a hill cannot be hid. People come to accept good service as a commonplace, without thinking of all the work and worry which go to produce it. It is an important part of the duty of every utility company, and of the industry as a whole, to keep telling the people—lest they forget.

Work of the Information Committee

For a year now the gas and electric utility industry in this State has been telling the story of the utilities to the public through the New York State Committee on Public Utility Information, and the committee has been endeavoring to stimulate the individual companies to tell their own story in all ways possible. The enterprise has been successful. I don't mean that it has been a 100 per cent success—it couldn't be, and we didn't expect it would be. But we feel that the results obtained have amply justified the effort and the expense involved. The amount of matter reprinted from the Utility Bulletin issued by the committee has been considerable. No one item in any paper has been important in itself; but the effect of many items, printed week by week around the State, has been unquestionably valuable to the industry. The newspapers themselves have registered this effect. Many papers which in the first part of the year did not use any of our material fell into line later. Moreover, after several months of this work, a change began to be apparent in the editorial columns of some newspapers. Some of the Bulletin material appeared as editorials; in other cases newspapers wrote editorials based on the Bulletin matter which were distinctly favorable and helpful to the industry.

Commercial Men's Aid Desired

The companies are committed to this publicity program, and are so satisfied that it is worth while that they have voted to continue it. The members of this Commercial Section have a part to play in this work, and it is a very important part, too. You men come into contact with the public of your communities, and with newspaper men, as we executives do not. I assume you all see the Utility Bulletin—if you do not, the committee will be glad to send each one of you a copy, addressed to you personally, every week, if you will ask that it be sent. That Bulletin involves a lot of work. It isn't meant merely for office consumption. It is meant to get into the newspapers, and to suggest your own local material to get into the newspapers. If the newspapers of your community are using Bulletin stories of their own accord, well and good. If they are not, there is a way to dress up the material by giving it a local twist which ought to make it just what they are looking for. Perhaps some of what you read in the Bulletin strikes you as old stuff—you've heard it so many times, presented in so many different ways, that you've lost interest in it. You are in this business. The editor isn't, and his readers aren't, so that which seems old stuff to you may be very good stuff to them. When you read the Bulletin, think how the articles in it apply to your own company. Most of them could be localized by quoting one of your local officials as saying what the Bulletin article says; or by substituting local statistics about growth, investment, tax payments or whatever the subject of the article might be. The Bulletin is intended not only to supply general material about the industry, but to make it easy for companies to supply their own facts to their own papers.

Another way in which you can help the committee—notify our office of the conventions or meetings where addresses on utility topics could be made. If we can get the opportunity, we'll furnish the speakers. We have done considerable work of this nature, and it has been highly successful. There is no better way of telling the public the information we have to give about our industry.

Committee to Supply Advertising Copy

In voting to continue the committee's work, representatives of the companies gave their sanction to a plan in which many of us have been keenly interested for a long time. They authorized the committee to prepare and distribute to all the companies advertising copy dealing with the fundamental facts of the gas and electric industry—its service, operations, financing, ownership, regulations, its duties and its responsibilities. That work has been begun, and in a short time the first group of advertisements will be ready for distribution. In authorizing the committee to prepare this copy, the representatives of the industry who conferred on the matter expressed their opinion that the companies ought to appropriate at least 1 per cent of their gross revenue for newspaper advertising.

This advertising service from the committee is not intended to supplant any local work of that nature. It is intended to extend and supplement it—to lay before the public the basic facts of the industry as an industry, which is something not done heretofore in this State, and something which as a matter of good-will building and as a matter of business-building badly needs to be done. You men can readily understand the effect such an advertising campaign can have in shaping public opinion to an understanding of our business, our problems, our accomplishments—and, mind you, this isn't a campaign in the sense of being for three months or six months—it's for this year, and if we make it go, for next year and all the future. Already about all the important companies have given their approval to this enterprise; and we intend to go ahead and try to line up others, so that this united effort will cover

the state, giving our story to all the people regularly, consistently, authoritatively.

Now we need your understanding and your co-operation in both phases of the committee's work. The executives are committed to the publicity programme on both lines, and we've got to go to it and make it pull. Building good-will for our industry doesn't mean fine words by the heads of some of the companies—it means consistent and persistent effort by all of us all along the line to hold high standards of responsibility and service, to live up to them, and to talk about them and what we are accomplishing in living up to them. The committee has the machinery to turn out the publicity material, both in the Bulletins and in this advertising copy. You are at the receiving end, and we must rely on your efforts in considerable part to see that what we produce gets where it will do the work—into the columns of the newspapers. You can help this work, or you can slow it up seriously. Let's put it over!

New Industrial Gas Laboratory in San Francisco

Charles W. Geiger

In order to demonstrate the uses to which gas may be put and the excellent results that may be obtained therefrom, the Pacific Gas and Electric Company of San Francisco has opened a modern gas laboratory and demonstration plant, a part of which is shown in the photograph.

The building is of the factory type and contains a floor area of 8,400 square feet. It has been equipped with almost every type of modern gas appliance which might be used in industry, and it is the idea of the company to have its industrial engineers demonstrate this equipment to its consumers in order to prove the value of gas as a fuel.

The problem of the industrial engineer is a peculiar one, in that his recommendations usually involve a considerable expenditure for new equipment in order to demonstrate the availability of gas for a particular purpose in an effective manner. It generally is the case that oil or coal-burning equipment in use cannot be converted to the use of gas fuel so as to obtain the degree of efficiency the company likes to see effected. It goes without saying that the gas industry is anxious to accomplish a given amount of work with the least expenditure possible on the part of the user of the gas. It is modern business policy to give the greatest possible value for each dollar received, resulting in a host of satisfied customers and, in the long run, a greatly increased volume of business. The industrial gas engineers, therefore work under positive instructions to give the customer in every case the best possible advice for the customer's interest.

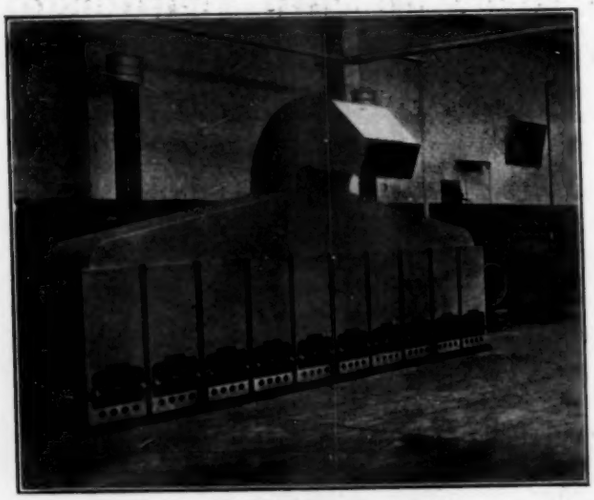
In making recommendations it is sometimes essential that the proposed method of utilizing gas is well demonstrated in order to effect a sale. This may involve a considerable expenditure on the part of the customer. The laboratory as it is constituted answers every requirement in this particular. The industries of the Pacific Coast have now an opportunity to bring their problems to the gas company with the certainty that they will receive accurate and scientific information. It is quite feasible for a manufacturer to bring in samples of steel to be treated and have the work done under his personal observation in a gas-fired furnace. A complete report may thus be obtained on the quality of work

Interior of the Industrial Gas Laboratory

produced and the cost of doing it. This is something which has heretofore been impossible, due to the lack of proper facilities, and something which it is believed will be of great value to the industries on the Pacific Coast.

Equipment of Laboratory

The laboratory contains a variety of equipment, well designed for heat treatment and heating experiments of all sorts. Some of the equipment is described below. There is a battery of gas fired steam boilers. There is a No. 18 Bryant steam boiler in a complete installation with radiators in offices above the boiler, and the entire system is



Large Heating Furnace

covered with asbestos insulation. It is in working order and can be subjected to observation and test by prospective users. The Minneapolis heat control device is used on this apparatus and regulates the flow of fuel to the boiler in accordance with the heating requirements.

Another heating display is the Rector system, known for its efficiency of operation. This is ideal for installations where unit heating is required and economy is a factor. Some large factories have been equipped with this system, the American Can Company being a notable example.

The next display is of high-pressure boilers, shown at the right. This exhibit consists of a battery of Kane boilers, one 10-h.p. and one 5-h.p., interconnected so that one or the other may be used. A small 4-h.p. McKee boiler completes the battery. All steam lines and return lines are provided with valves, so that any desired operation can be carried out. These boilers supply steam to a dry room and to a 500-gallon wooden tank with a partition in the center. One side of the tank has a coil and the other side an open jet. A 26-inch steam-jacketed kettle is also connected. The condensation from these appliances is returned by a steam trap to a receiver tank, from which it is automatically pumped back to the boilers by a small reciprocating steam pump. All appliances are operated through a 150-A master meter, and each section in addition is again metered through Sprague iron meters. Portable recording meters are also provided for testing purposes.

Heat Treating Section

The metal treating section is the most complete of all the departments. It is the theory that in a growing industrial section this branch of the company's business should be specially encouraged. It has been the case, at least on the Pacific Coast, that the heat treatment of metals with gas has not received the attention it deserves, and as a consequence that phase of gas utilization shows the least growth. This was determined accurately by an industrial survey of all territory served and an analysis of all industrial customers. Practically 20 per cent of the gas output in the bay district of San Francisco is sold for industrial purposes.

The metal treatment department of the laboratory has a complete line of furnaces and equipment for any work which can ordinarily be done with gas. There are 30 different furnaces for this work. All are connected and ready for operation. The largest of these weighs a little over two tons.

A careful record is kept at the laboratory of all demonstrations and tests made for customers. These are checked up later with sales, and it has already been proved that enough new business has been secured to justify the investment.

The successful completion of this laboratory is a tribute to the co-operative spirit of men in the gas industry, as there is approximately $20,000 worth of gas equipment in operation, most of which was furnished by the manufacturers.

GAS IN MULTICOLOR PRESS WORK

In multicolor press work it is essential that the room in which the press is located does not become cold, as the press cannot do its best work when the ink on the heads gets cold and congeals.

In a printing plant in San Francisco there was recently installed a set of gas furnaces for heating the plant and for maintaining a regular temperature in the room in which the multicolor press was situated. A forced draft system of ventilation is used, the air being heated in the gas furnace and distributed through ducts and registers throughout the factory. A special 6-inch duct was provided for maintaining even temperature around the multicolor press. The heat duct was provided with spreader, which directed the heat on the ink heads. Each duct is provided with a damper just over the furnace, which allows regulation of heat through the ducts.

The installation has been found to work well. Not only was the whole place flooded with a comfortable warmth, but the odors and all products of combustion were carried outside the building through a flue connected to each pair of gas furnaces.

For additional details, the reader is referred to the Public Service Magazine.

Recovering Ammonia in Gas Plants

FUNDAMENTAL PRINCIPLES OF THE PROCESS—SEPARATION OF STRONG AND WEAK GAS LIQUOR—EFFICIENCY OF OPERATIONS

F. Plenz

Ammonia is both a by-product of considerable importance and an impurity that must be removed from gas in order to render it marketable. It is possible to obtain ammonia liquors of different concentrations in the washing operation, and it is similarly possible to attain high or low efficiency of washing, dependent on how the operation is carried out. A highly concentrated gas liquor is preferred, but too much must not be sacrificed in producing the product. The fundamental principles of ammonia recovery, a method of obtaining both strong and weak liquor separately, and the effect of different conditions on the efficiency of the recovery plant, are discussed in the following article, which has been translated specially for the American Gas Journal from Das Gas und Wasserfach.

The following article is not intended to describe any new methods or theories regarding the recovery of ammonia in gas works. Certain experiments and observations which were made by various investigators and whose work was presented before meetings of the Gas Institute of Germany in former times, have been collected and studied. It seemed to the writer that a short review of these matters and a discussion of the common errors and erroneous conceptions that have been prevalent in connection with this subject, would be both interesting and instructive.

The formation and the recovery of ammonia in the production of illuminating gas is an important factor in the operation of a gas plant from two points of view. In the first place, the ammonia is a by-product, which must be produced in a certain proportion, just as the other by-products of gas manufacture, in order to absorb the proper percentage of the operating cost and to allow the sale of gas at a fair price. In the second place, the ammonia is an impurity which must be removed from the gas as completely as possible, as when it is allowed to remain in the gas the distribution piping system and especially certain sensitive parts of the gas meter and the burners are adversely affected, and ultimately destroyed.

Ammonia as a By-product

Ammonia as a by-product in the manufacture of gas comes into the market as sulphate, ammonia liquor and in certain cases as sal ammoniac or chloride of ammonia. The concentration of the ammonia liquor, recovered originally in the purification of the gas, must be as high as possible, so that the subsequent evaporation process is as limited as possible. The yield of ammonia, which, figured on the basis of sulphate of ammonia, lies between 8 and 11 kilograms per ton of coal, depends on a series of factors, of which only a part are controllable in their entirety or even in part. The nature of the coal is significant, some coals yielding more ammonia than others. Furthermore, there are the high oven temperatures and particularly the sucking in of air into the apparatus during the gasification process, which hinder the formation of ammonia. On the other hand, the presence of moisture in the coal promotes the formation of ammonia.

Recovery of Ammonia in Practice

A part of the ammonia separates when the gas is cooled. According to the investigations of the German Gas Institute, this part amounts to from 40 to 60 per cent of the entire quantity of ammonia recovered. This percentage varies in accordance with the moisture that is present in the coal. With some coals, as much as 80 per cent of the entire quantity of ammonia is recovered at this stage. The remainder of the ammonia must be recovered by the washing process, which is carried out in stationary or rotary washers.

The proportion of the ammonia liquor which is produced in each stage of the operation is dependent on the manner in which the operation is carried out. The following table gives some information on this subject and show how the ammonia recovered varies with the use of differently constructed retort ovens:

1. Inclined retort oven. Condenser is cooled with water.

Ammonia in grams, per liter	Stationary washer		
	Free	Combined	Total
Condenser (irrigated) ..	5.1	3.8	8.9
Reutter cooler	22.5	5.3	27.8
Collecting pit, tank, irrigation of condenser; first washer, for sulphate manufacture	7.8	3.3	11.1
Liquor from first washer..	14.3	3.6	17.9
Liquor from second washer	2.6	0.0	2.6

2. Vertical retort oven and horizontal retort oven.

	Stationary washer		
	Free	Combined	Total
Condenser, horizontal retort	1.8	12.3	14.1
Condenser, vertical retort.	1.6	20.6	22.2
Reutter cooler	16.1	6.4	22.5
Collecting pit, tank.....	11.8	6.0	17.8
Liquor from first and second washers	12.4	5.8	18.2

3. Horizontal retort oven.

	Stationary washer		
	Free	Combined	Total
Condenser	0.1	34.6	34.7
Cooler	32.5	0.2	32.7
Collecting pits, tank.....	29.2	3.0	32.7
Washer No. 1.....	7.5	2.1	9.6
Washer No. 2.....	2.0	0.3	2.3

Combined and Free Ammonia

The various gas liquors, recovered at different steps in the process of washing ammonia out of illuminating gas, vary considerably, both with respect to the total percentage of ammonia as well as with respect to the ratio of the free to the combined ammonia. The designation free ammonia is not a happy term; it should be called more correctly volatile or semi-combined ammonia. This definition covers the combination of ammonia with carbon dioxide (carbonic acid), sulphuretted hydrogen, cyanogen, while combined ammonia includes its compounds with sulphuric acid, thiosulphuric acid, hydrochloric acid and sulphocyanic acid. The ammonia that is found in the condensers is composed predominantly of combined ammonia. The percentage of combined ammonia in this ammonia liquor increases, as the temperature at which the condenser is operated increases, for as this rises the volatile ammonia is driven off as a gas. The condenser is cooled by irrigation with water, and in this manner the ratio of the free to the combined ammonia is altered very considerably. Furthermore, the condensate is strongly diluted by such practice.

The recovered liquor from the Reutter cooler or air cooler is generally the strongest liquor, due to the very large, predominating proportion of free ammonia contained in it. As has been previously mentioned, when the cooling is carried out very effectively, the greatest part of the ammonia is removed from the gas, under certain conditions even up to 80 per cent.

The rest of the ammonia is recovered in the washers, either in a rotatory washer or in two stationary washers, of which the first is irrigated with dilute gas liquor and the second with clear water. The washing process is carried out to good advantage in accordance with the counter-current principle, that is, the gas which contains the most ammonia is brought in contact with the water which is most concentrated, while the gas which contains the least ammonia comes in contact with the fresh water. In this way it is possible to obtain a maximum washing effect with a minimum amount of wash water, and at the same time it is possible to remove all the ammonia that can be absorbed from the gas under practical operating conditions. The rotary washer works to best advantage on the counter-current principle. Even when this washer is irrigated with clear water only, the liquor can attain a concentration of 35 to 40 grams of ammonia per liter. This cannot be secured with the stationary type of washer, even when two or three of them are used in series.

Efficiency of the Washer

The efficiency of the washer, that is, the ratio between the ammonia washed out of the gas and the total ammonia in the gas to start with, is determined from time to time by finding the ammonia in the gas before and after it passes through the washer. It is essential to do this in order to correct disturbances and errors in the operation. These disturbances occur in the stationary type of washer, due to the filling up of the inlet tubes or to the incorrect construction of the distributing device in the apparatus. For example, this can result in the irrigation of only one side of the washer, so that a part of the gas passes through the apparatus without being washed at all. In the rotary type of washer the passages in the apparatus can become incrustated or smeared over with impurities, such as tar or oil, floating on the water, so that they cannot be properly wetted down. Particular attention must be paid to the operation of these washers when using a water which has a high line content. It is not difficult to obtain a washing efficiency of from 95 to 98 per cent when the washing operation is properly carried out.

Enrichening the Ammonia Liquor

While the counter-current principle of operation is perfectly satisfactory and logical in just washing the ammonia out of the gas, it, however, has not generally received proper consideration as a means of enrichening the ammonia liquor. The first washer is always irrigated with gas liquor, which is concentrated thereby, but the total mass of water used and recovered at the various stages of the operation, from the condensers, the coolers, the first washer, etc., is allowed to run directly into a collecting pit or tank without any regard to the proportion of ammonia it may contain. It is undoubtedly more advisable to separate the more dilute water and use the same for irrigating the first washer so that the ammonia concentration is increased. This results in an increased washing efficiency in the first washer due to the irrigation with a more dilute wash water. The load on the second washer is thereby relieved, that is, not so much ammonia must be removed from the gas by this apparatus, which means that the amount of fresh water that must be introduced into the system is likewise reduced.

There are, however, a number of practical difficulties which surround the practice of separating the weak and concentrated gas liquors in an operating plant. All the tarry waters, the waters from the condensers, from the hydraulic mains and from the coolers, must pass through the settling pit; hence they must all be combined in one mass. Otherwise the installation must be provided with two collecting pits. Furthermore, many gas works possess just one collecting pit and just one holder, so that it is impossible to change the method of handling the gas liquors without effecting quite some alteration in the arrangement and equipment of the plant itself.

Separation of Weak and Strong Gas Liquors

But in gas works, which can afford to make the necessary changes, and in cases where changes are being made or new construction work is being undertaken, consideration should be given to the practice of separating the weak gas liquor and allowing it to run into a separate collecting pit, so that

it may be used to irrigate the first washer. Two pits and two smaller tanks are required for this purpose. The concentrated liquor, that is, the run-off from the condensers, the hydraulic mains, the coolers and the first washer, is led into the first pit. The sulphate works or the concentrating plant is then fed with this liquor by placing an intermediate small tank on the feed line, which serves to equalize any slight variations that may take place in the feeding of the ammonia liquor during the operation of the ammonia plant. The second collecting pit and the tank belonging thereto receive the dilute gas liquor from the second washer.

When the condenser is irrigated with water, then the operation of the installation and the handling of the gas water becomes more complicated. The run-off liquor from the condensers then consists mostly of rather dilute gas liquor, which it is not advisable to run into the collecting pit, which receives the more concentrated liquor. Furthermore, from a technical standpoint it is entirely wrong, in fact very bad practice indeed, to allow the waste water from the condensers, which is rather warm, to mix directly and without prior cooling with the gas liquor in the collecting pit. The washing capacity of an ammonia washer decreases with rising temperature in the same degree as the vapor pressure of the ammonia in solution increases. For the same reason, therefore, it is evident that the most efficient washing is obtained with fresh water which is as cold as possible.

Due both to increase in the temperature as well as increase in the concentration, the vapor pressure of the ammonia rises, and similarly along with it the possibility of losses is increased. It is therefore essential that the collecting pits and tanks be well closed. Only the closed type of tank should be used in order to avoid ammonia losses. The tanks should be kept under gas pressure in order to slow up the rusting of the metal thereof. Furthermore, the capacity of the tanks should not be too large, so that in the summertime, when the ammonia liquor is stored in the same for a prolonged period of time, it is not heated up unduly.

Conditions Affecting Losses and Remedies

It is in every way essential to pay attention to all the conditions and details, so to obtain as strong as possible gas liquors with as great a washing efficiency as possible and at the same time to avoid all ammonia losses. The concentration of the liquor, which in general can be secured in gas manufacture, is obtained on the one hand from the quantity of ammonia and the quantity of water which is formed from coal, that is, from 100 kilograms of coal, under normal operating conditions, and, on the other hand, from the quantity of fresh water which is required for washing the corresponding quantity of gas in the second washer. Various coals were tested and it was found that the average quantity of water recovered from 100 kilograms of coal varied from 6.1 to 9.5 kilograms, while the proportion of ammonia derived therefrom varied from 0.2 to 0.275 kilogram. It has also been estimated that the amount of fresh water introduced into the system for irrigating the second washer need not be any greater than 3 to 5 kilograms per 100 cubic meters of gas, or from 1.0 to 1.5 kilograms per 100 kilograms of coal. Tests were made to determine the ammonia concentration in the gas liquor obtained by washing gas made from different coals, to establish the relation between the concentration of the liquor and the quantity of water used in washing.

Ammonia Washing Tests

The results indicated that it was impossible to obtain sufficiently strong gas liquor from gas made from coal, which were poor in nitrogen, but which contained much water by very thorough irrigation of the second washer. The amount of fresh water added should be kept down within narrow limits, and, furthermore, the washer must be in good working order.

This method of concentrating the gas liquor, that is, securing a concentrated form of gas liquor from ammonia recovery plants working on the counter-current principle, represents an ideal system, which can be introduced into many works, but which cannot be used in others under any circumstances. It is important, however, that each case be considered separately and that an accurate analysis be made of the operating conditions and the cost of the change in operations and equipment, necessitated by the new process, and the saving in steam entailed by working up the concentrated gas liquors must be taken into careful consideration as well in determining the applicability of the process. The consumption of steam, calculated on the ton of gas liquor, remains approximately the same, irrespective of the concentration of the liquor. However, when figured on the ton of finished product, the working up of a gas liquor with an ammonia content of 1.5 per cent, consumes double the amount of steam as the concentration of a 3 per cent ammonia liquor.

Ammonia as an Impurity

It must also be remembered that ammonia is not only a valuable by-product derived from gas, but also an injurious impurity which must be removed from it. Ammonia in conjunction with oxygen, from which illuminating gas is not altogether free under any conditions, has a corroding effect on metal. It attacks iron piping, the various metallic parts in house installations, the meters and other metallic apparatus which comes in contact with the gas.

It is a very difficult matter to tell just what amount of ammonia the gas can safely contain without incurring any of the aforementioned injurious results. Some gas technologists have advocated as low a figure as 0.6 gram ammonia per 100 cubic meters of gas as the maximum limit, while others place this as high as 5 to 10 grams of ammonia per 100 cubic meters. It may be said that the latter estimate of the maximum allowable ammonia content in the gas is too high, while the former is too low, as

it would scarcely be possible to wash a gas so thoroughly as to reduce the ammonia content to so low a figure except in a few special cases where a great quantity of fresh water is employed. An average figure, which can be taken as good practice, is from one to three grams of ammonia per 100 cubic meters.

Tension of the Ammonia Liquor

While by far the greater proportion of the ammonia in the gas is removed by condensation and by washing with gas liquor, the rest must be removed by washing with fresh water on the counter-current principle. In other words, in order to remove the last traces of ammonia, the gas must be washed with a liquid that does not contain any ammonia at all. In every aqueous solution of ammonia, hence in any gas liquor, the ammonia possesses a definite vapor pressure, which can be expressed in millimeters of mercury or in grams per 100 cubic meters. For example, in a gas liquor which contains 17.9 grams per liter of total ammonia there will be found a vapor pressure of 86 grams per 100 cubic meters. This means that pure air or a pure gas, when it comes in contact with this gas liquor, will absorb ammonia up to a maximum content of 86 grams per 100 cubic meters, or vice versa, ammonia-containing gas can be washed free of ammonia with the aid of this liquor up to a minimum content of the same amount. This will be so even if the efficiency of the gas washer is assumed to be 100 per cent. The ammonia in the gas and the ammonia in the gas liquor stand in equilibrium.

As simple and as clear as this principle is—it forms one of the main laws of physical chemistry and its application in technical processes is very wide—nevertheless, it is often misunderstood or not known at all. It has been found rather frequently in gas plants that the last gas washer in the series or several of the same are irrigated with gas liquor in the place of fresh water. The result is that the gas goes to the consumer with an appreciable content of ammonia. This practice is followed by gas plants which are desirous of producing a gas liquor of as high a concentration as possible, so that it is readily marketable, but it is bad practice to leave the ammonia in the gas.

Effect of Too Much Ammonia in Gas

In a certain gas works two washers were irrigated with the gas liquor, pumped from the collecting pits. Addition of clear water was avoided and the gas liquor was allowed to circulate through the apparatus so long until it had become highly enough concentrated to be marketable. Then it was replaced by clear water. When the content of the irrigating water was 18 grams per liter of total ammonia, the percentage of ammonia in the gas after washing was determined as well that in the purified gas going to the consumer. It was found that the gas, after having passed through the gas washer under these conditions, contained 67 grams of ammonia and the finished gas leaving the plant 16 grams of ammonia. Of course, the dry purification process, following the wet purification process, removed a considerable proportion of this ammonia, but a large amount of ammonia was still left in the gas and resulted in serious disturbances in the distribution system and meters within a period of a year. The various metallic parts of the meter and distribution system were eaten away by the ammonia.

It was also observed in several gas plants that the second washer was irrigated with gas liquor and clear water simultaneously. This is also bad practice, for the action of the combined gas liquor and clear water irrigation is the same as that of a diluted gas liquor alone, and all the ammonia in the gas is not removed. The only sure way to remove the last traces of ammonia in the gas is to irrigate the second washer with pure water only.

Efficiency Determination Shows Defects in Operation

In order to show how the determination of the efficiency of the operation of a washer tells what disturbances take place in its operation, the following example is appended. There were two washers; one was irrigated in the normal way with gas liquor and the other with clear water. The quantities of ammonia in the gas were as follows: Before entering washer No. 1, 220 grams; after leaving washer No. 1, 107 grams; after leaving washer 2, 45 grams. From these figures it was calculated that the efficiency of washer No. 1 was 51 per cent, of washer No. 2, 58 per cent, and of the entire washing operation, 80 per cent. On the other hand, it is not unusual to secure efficiencies of 95 to 99 per cent in the washing operation. Inasmuch as the washers were built with a sufficiently large surface area—they were really intended for three times the gas production—the low efficiency of the machine must be laid to some disturbance in the distribution of the water in the interior of the same. Accordingly, the washers were opened, when it was found that they were almost empty. They contained only three or four small distributing plates in the center, so as to atomize the water that came in contact with them.

METER GLASS REPLACEMENT

According to Glow, a meter reader in the organization of a gas company recently made a very helpful suggestion in the way of meter glass replacement. The present practice was to have meter readers report broken glasses, and through the trouble department a crew in the locality would be later detailed to replace them. However, this often caused needless expense in dispatching a big car or crew out of its way merely to replace a meter glass. Inasmuch as just a screw driver is required to replace the glass, and as the glass is always kept in stock cut to size, the meter reader himself can replace the broken glass while he is on his rounds reading the meters. This suggestion was awarded a prize.

How Extensions Are Made

A. Scarth, Service Supervisor Empire Gas and Electric Co., Newark, N. Y.

In this address, which was delivered before the annual meeting of the Commercial Section of the Empire State Gas and Electric Association at Briarcliff Manor, N. Y., June 28 and 29, 1923, a description is given of the method employed by a gas company in taking care of extensions.

Service Inquiries and Routine—Investigation of Extensions

Since the public, to obtain gas and electricity, must come to us, the policy of our company is to make it as easy as possible for them to get what they want when they want it.

Upon receipt of request to have gas or electricity supplied in a building, by referring to our maps, we find out if there is a gas main or electric line within 100 feet of the building; if so, a contract is made out and signed by the customer. Our charges are $.50 per foot for 1¼-inch gas service pipe from the curb to building to inside of wall and $1.50 for meter riser and shut-off for gas. A work order is then made out and one copy handed to the gas or line foreman to be done as soon as possible, which is turned into the office upon completion, with list of material used, and the customer is then charged for the number of feet of service. Upon a customer signing up for service, we sell them appliances suitable to their requirements if possible.

Upon application for service where there is no gas main, a canvass is made of the district to determine the nature and volume of business that can be secured, which is reported to the superintendent, who determines whether the business will warrant the extension. In estimating a careful consideration should be made of the revenue to be obtained. On gas extensions it seems that the rule is to estimate the main, including the service stub, 100 feet for a customer, within the corporate limits. Whether this figures out on a profitable basis, is also for discussion. If the estimated revenue does not approach close enough to meet the requirements of our company to warrant the expense of the extension, a small payment is asked for, or an effort is made to induce the customer to make the expenditure for additional appliances which would make their consumption equal the requirements of our company.

Purchasing and the Storeroom*

A METHOD OF RUNNING A PURCHASING DEPARTMENT AND STOREROOM

H. B. Cleveland, Treasurer Elmira Water, Light and Railroad Co., Elmira, N. Y.

The system by which material is handled in our supply department is one that has been devised with care to fit the conditions of our company and has worked out very satisfactorily.

Our first formal record is the purchase requisition made out in triplicate, the original and duplicate, being in the form of a fold-over sheet, are sent to storekeeper and triplicate retained by superintendent, originating the requisition. When this requisition reaches the storekeeper, if goods are in stock, he delivers as directed; if goods are not in stock he makes formal order for the purchase of same, delivering as soon as goods are received, following them up on an arch file arranged alphabetically, until goods are received, when these orders are passed to closed file. These orders are made out in triplicate, original being sent to dealer, duplicate to accounting department and triplicate kept by supply department. The triplicate is arranged to give date goods are received, our invoice number, how received, amount of transportation charges and quantity.

The next entry is made when the goods are received and is called "material received into stores form." Here all goods that are received and are chargeable to stores accounts are entered on this sheet each day and copy sent to storekeeper. If the goods do not go to the storehouse, but are forwarded direct to some other point such as the electric department, then this form is not used. As soon as material is received, whether chargeable to stores accounts or direct to construction or maintenance accounts, it is checked against the orders and then entered in a receiving book. The column headings show date received, order number, from whom received, quantity, description, how received invoice number, account number and to whom delivered. The column heading showing our invoice number is gone over periodically and, as all blank spaces show that invoices have not been received, a request is then made that they be furnished at once. From the "material received into stores form" all material that is chargeable to stores accounts is entered in a "material received" book, whose headings show description, how received, section and space, the location of goods in storehouse and account number, the cost of the goods being entered in the column under the month in which the invoice is passed. Columns at the top are headed with the twelve months of the year. This gives us

*An address delivered at the annual meeting of the Commercial Section of the Empire State Gas and Electric Association, June 28 and 29, 1923.

the total amount chargeable to stores each month. This form is practically a duplication, and may or may not be open to criticism on that account. However, we find that having this record in a separate bound book is well worth the duplication that takes place, the chances of errors and omissions being much less. From this book the total charges are then entered on stores ledger cards arranged in ledger by account number, which is subdivided according to goods, such as nails, cordage, switches, wire, etc.

The requisitions received by stockman are turned over to the ledger clerk each day, these being in duplicate as described heretofore. When these are taken from ledger cards and priced by ledger clerk, originals are sent to accounting department, duplicates filed at stores department, amounts being entered on stores distribution sheets, which consists of pages divided into sections, first pages giving accounts that are credited, with columns for date, requisition number and monetary amounts. Following pages divided into various sections are headed with various account numbers, charges being made on same lines that requisition number affected and credit is made on. This gives a complete check of charges and credits, so that as fast as sheets are filled totals are carried forward to next sheet and the filled sheet, together with requisitions attached, are sent to accounting department and checked and at the end of the month total charges posted. This eliminates considerable work by the accounting department at the end of each month.

The stores credit memo. is made out by department heads for all goods returned to stores for credit, also for all goods turned over to storekeeper to be paid. This form is also used for the transfer of material from one account to another.

NEW METHOD OF EXTINGUISHING OIL TANK FIRES

C. W. Geiger

A very effective and economical method of extinguishing oil tank fires is now being demonstrated in San Francisco, in which a 12-foot and a 20-foot steel tank is used. In the demonstrations oil is placed in these tanks and allowed to burn for various lengths of time and then the extinguishing system is turned on and in every test the fire has been extinguished in a few seconds.

The new system operates on the principle of spreading an unbroken curtain of water over and above the surface of the burning oil. Air containing oxygen, the life support of any fire, is not permitted to pass or filter through this curtain of water in any great quantities to the surface of the fire. This is especially true when an additional heavy water vapor spray or fog and steam is present over the burning oil above and below the water curtain. This is the result of the high velocity water curtain striking the sides of the tank, or one curtain striking against another in multiple installation, and breaking up into fine globules to form a fog, which has somewhat the same effect as steam in the smothering of oil fires. Steam, however, is applicable to closed tanks only as in open tanks the heated steam naturally escapes too readily to be of much use. The effect of water, applied as above, is the same either in closed or open tanks, due to the comparatively cold water curtain and water spray which are considerably heavier than the air.

The curtains of water are produced by means of a water distributor, made of heat-resisting metal The orifice or outlet is restricted by means of an inverted, conical shaped, disc tip with threaded stem

which is screwed into a cross rib in the center opening of the nozzle body, thereby permitting the water to pass through the annular space between the body of the distributor and the stem of the aforementioned disc tip with a curtain-like effect. The curtain spreads equally in all directions. Several small holes are also carried through the stem to the outer face of the disc tip to form additional water jets.

The 20-foot tank has 1½-inch lines each 7 feet 6 inches long, radiating from center of tank to the separate individual distributors, spaced equidistant around the circumference.

The water is supplied to the water distributors by means of a centrifugal pump, having a capacity of 500 gallons per minute at a discharge head of 100 lbs. per square inch. This pump is directly connected to a 50-h. p. motor.

Gas and Fuel Oil Statistics

Production of gas and fuel oils in May amounted to 966,165,819 gallons, a decrease of 10,000,000 gallons from April but an increase of almost 30,000,000 gallons over May of last year. The consumption of these oils is reported at 921,999,596 gallons, as compared with 903,581,687 gallons in April and 830,169,749 gallons in May, 1922. Exports of gas and fuel oils amounted to 115,837,414 gallons, an increase of 15,000,000 gallons over April and of 48,000,000 gallons over May, 1922. Stocks of these oils on hand June 1 are reported at 1,246,662,180 gallons, a decrease of 26,000,000 gallons from the beginning of the month.

As The Journal Views It

GOOD-WILL AND THE NEWSPAPER

The newspapers of today form perhaps the world's single greatest force for disseminating information. There is certainly no better way of gaining publicity for one's self or one's plans and aims than to have the same recorded and discussed in a newspaper. As with every agency or device devised by human brains, there are always disadvantages and advantages connected with the use of newspapers as publicity agents. There is no question but that the people read newspapers, but there may be some doubt as to how much of what is printed in the newspapers is actually believed by the readers. Some readers are known to be exceptionally skeptical about newspaper stories and in many cases they have good reasons to be so, but there is scarcely any doubt that the great majority of people are influenced markedly by what they read in the daily papers. In fact, some people never read anything else and all their opinions and all their ideas are based on the information that they gather from the morning or the evening paper. And it is to be remembered that it is these large masses of the reading public that form the great voting power and that is able to influence legislators and administrators to obey its mandate and carry out its will, when a proper organized effort is made.

The gas industry is always interested, just like all the other public utilities, in securing and holding the public's good will. It exists primarily to serve the public and as expressed in the leading article of this issue of the American Gas Journal, public utilities are really public servants, and public utilities and officials are literally as much public employees as elected officials. Hence it follows that the public, the big boss, must be pleased and satisfied.

The gas industry is fundamentally desirous of pleasing the public; but it, and all the other public utilities as well, has to face opposition from different sources—opposition based on false statements or facts turned and twisted in their meaning so as to react against the interest of the industry. The mass of people, customers of the gas companies, read the newspapers and allow them to act as a potent factor in molding their opinions and ideas. The information that they get from the newspapers about gas companies is many times intentionally or unintentionally wrong. The only way in which the gas industry can put its message over and secure the good will of the people—the only way, at least, in which this can be accomplished at the greatest efficiency—is through the common carriers of news and information, the newspapers themselves.

It is up to the gas industry to see that correct information is published regarding its methods and means of doing business, the service that it renders to its customers, and the relation in which it stands to the public and the public's elected and appointed officials. The high value of the service performed by gas can only be realized by the public if their attention is called to it by impressive statements, published in their newspapers. The gas industry must hold and is absolutely entitled to hold an extraordinary high position in the modern community. But it cannot attain to that position if it permits others, who do not know the facts, who do not appreciate the conditions and circumstances under which the gas industry operates, if it permits them to make statements and publish information derogatory to the interests of the industry. In the State of New York the State Committee on Public Utility Information has been endeavoring to secure recognition for public utilities throughout the State, to persuade editors and newspapers to give space in their columns to public utility news, and to encourage individual companies to stand up and tell their own story in their own way, so that the people may know the truth. Considerable success has been attained in this work, and in many cases newspapers are giving publicity to the public utilities where they have never done so before. This work needs to go on and it needs the support of all the public utilities and all the gas companies in the state. It needs the support of the entire gas industry of the

country, for it is a common interest in which every gas man should be interested. It needs the support of each and every member of the gas fraternity, and it is up to them to take every opportunity to further the interests of gas. And securing the proper publicity for gas subjects is one of the best, if not the best, ways of promoting the welfare of the entire industry.

A SUGGESTION

A reader suggests, apropos of the article published on page 527 of the June 16th issue of the American Gas Journal, why not copyright the word "Gas"? Impossible? The real estate dealers copyrighted the word "Realtor." This suggestion has value and affords material for study and consideration.

Commercial Department Accounting*

NECESSITY OF ACCURATE COMMERCIAL DEPARTMENT ACCOUNTING EMPHASIZED—INCORRECT BILLS ANTAGONIZE CUSTOMERS

Ernest Johnston, Auditor Syracuse Lighting Co.

The practice of many of the gas and electric utilities in respect of their commercial department accounting is to overload their system with detailed routine, or omit from their departmental costs some of the items that cannot be readily allocated between departments. This, of course, not only results in extremely complicated methods, but also seriously handicaps accurately recording the business transactions and the profit or loss resulting therefrom.

There is a natural tendency, which is quite proper, to unify this routine for the commercial department accounting with the utilities' existing system of accounting, which was designed for construction of plant and extensions and operating the property. In utilizing the existing system, excessive detail is often necessary in order to satisfactorily unify the whole, which frequently develops apparently absurd methods.

The difficulties of unification arise largely in adapting a system created for purposes of record in which there is no merchandising and which is not required to meet the conditions of the retail store, such as the requirement of a record of sales being made concurrently with the cost thereof, so that the statement of profits and losses for each month shall be accurate, as well as the necessity of prompt billing, handling of returned merchandise, etc., all of which affect intimately the consumer's relations with the utility.

Necessity of Accurate Reports

The commercial department must have accurate reports, at least monthly, of the costs and sales of each class of goods handled, as well as comparative figures and percentages, with previous accounting periods.

The cost accounting for this purpose is largely dependent upon the detail the department can justify by the results to be had from its use. Separate revenue accounts and also accounts to show the cost of goods and installations of same, for each subdivision of the department or class of goods are at least necessary to satisfactorily determine the results of the business. Profits or losses as well as the conditions of sales and expenses pertaining thereto for each subdivision are readily determined.

The sales arranged in such detail as may be required and accumulated to the credit of the revenue accounts and from which are deducted the costs of the merchandise, delivery and installation of same as shown by the debit balances of the accounts provided for that purpose, shows in the resulting difference, the trading account.

Against the trading account should be applied the departmental administrative and selling costs, including part of taxes, insurance, interest, office expense and other overhead costs applicable to the merchandise business.

These can be conveniently correlated with the corporation's general accounting practice through subaccounting and such overhead items regularly set up for the purpose of a profit and loss statement.

Too much emphasis cannot be laid upon the form, details and methods of billing the charges to customers. Much ill will has been developed among customers through careless and erroneous billing.

Rendering bills with incorrect amounts, whether due to an incorrect charge or omission of payments, stirs up and so antagonizes the customers that the public relations of the company, as well as its reputation, may become seriously impaired.

This also seriously affects the collections which are greatly influenced by accurate and prompt bookkeeping and billing. Therefore, unusual care and preparation should be exercised to perform this work properly. The question of personnel here, as in many other phases of our business, is fundamental With well-selected and trained employees, the commercial department accounting can be made to not only reflect the actual conditions of the department's financial operations; but also can be made the means of building in the minds of our customers greater respect for, and confidence in, your company, so that one of the useful functions of the utility may be realized by satisfactorily caring for the needs of those who are dependent upon it.

*Delivered before the annual meeting of the Commercial Section of the Empire State Gas & Electric Association, at Briarcliff Manor, N. Y., June 28 and 29, 1923.

Advertising Appliances*

DISCUSSION OF IMPORTANCE OF ADVERTISING AND WAYS IN WHICH IT CAN BE DONE

A. D. Dudley, Syracuse Lighting Co.

A recent survey made by this association showed that the major part of the advertising appropriations of its member companies was spent in stimulating appliance sales. This condition can be readily understood inasmuch as the growth of our gas and electric sales are dependent upon the installation of new appliances in the home, factory or store, as well as from continued and more extended use of appliances and equipment already in service.

Amount of Appropriations

Before reviewing the way or ways in which our appliance advertising money can best be spent let us consider for a moment the amount generally set aside for this purpose. Are we spending enough in advertising to sell our wares? Have we available an amount which compares favorably with sums devoted to this purpose by successful merchandisers in similar or allied lines? To be sure, advertising returns are hard to trace, even through mediums which are considered most productive, at the same time it is a conceded fact that advertising is a necessity in sales promotion and its virtues have been sufficiently tested by merchants and manufacturers, both large and small, to amply justify increasingly larger expenditures for merchandise advertising. From authenticated sources we learn that from two to five per cent of the volume of business done may be advantageously spent on appliance sales promotion. How many gas and electric companies are spending a sufficient amount on appliances designed for domestic, commercial or industrial use?

Advertising Mediums

Innumerable are the available mediums, and difficult it is indeed to judiciously buy appliance advertising with reasonable assurance that the accrued returns will warrant the money invested. While most satisfactory returns are often realized from unusual advertising methods, for the most part, however, limited appropriations which most companies have should be spent in mediums which wide experience has proven most productive.

Of great importance, if not of first, is the advertising value of appliance display, both in the window and on the sales floor. For the passerby or to the visitor who comes inside our appeal to buy is strong or weak, dependent upon the character of the arrangement of our goods for sale. The best merchants spend large sums on window and store displays, and we are passing an opportunity of great value if we are not making the strongest appeal possible through our windows and office appliance arrangements, to the many prospective buyers who come to our place of business daily.

Too much emphasis cannot be laid upon the advertising value of appliance demonstrations. No form of advertising has a more direct appeal to the prospective buyer than the actual seeing how an appliance functions in service. The visualization of the results accomplished through appliance operation, an explanation of how and at what cost a given work is done, more often creates a desire to possess. "Seeing is believing" to the average buyer and many, in fact most of the appliances, lend themselves to actual tests in our windows and on our sales floor as well as in home or factory.

Advertise by Using Appliances

A practical and every day use of appliances which we desire to sell is most consistent and convincing advertising. It is our belief that in carrying on our business we should make use of as many of the gas and electric appliances which we are offering for sale as possible. The hot water we need should be provided by the heaters we are advertising for customers' use, our windows should be lighted by equipment we recommend. Furthermore, the most extended use possible of appliances in the homes of the company's employees, encouraged through special selling prices, is a form of advertising which will stimulate materially appliance sales to friends and neighbors.

Few merchants have the access to customers' homes that gas and electric companies have through their different representatives. Meter setters, meter readers and distribution men are calling from house to house many times during the year, and are afforded an unusual opportunity to distribute advertising literature of different kinds in a manner much more effective than through the mail, which so often finds the waste paper basket unobserved. Advertising pamphlets, folders, catalogues, etc., carefully selected and distributed in this way will often find fertile soil.

Newspaper Advertising

Valuable as the many advertising methods which are available, and many of which are applied in our endeavor to further appliance sales, the newspaper without doubt is the medium which will most effectively carry our advertising story to prospective buyers. It is claimed that 70 per cent of the people above 14 years of age in the average city are newspaper readers.

It is important to educate the public to read our advertising. A set location regularly used with daily change of copy tends toward that end. Appropriate cuts not only catch the eye of the reader but tell a part of the story itself. The variety of our appliance lines and the more numerous ways they may be advantageously used make an extensive use of newspaper advertising a profitable expenditure. It is not only good practice but a necessity if it is desired to reach the maximum number of our customers. I believe 75 per cent of our advertising appropriation should be spent in newspaper copy.

*Delivered before the Annual Meeting of the Commercial Section of the Empire State Gas and Electric Association.

NEWS OF THE GAS INDUSTRY

Industrial Gas Course Massachusetts Institute of Technology

A committee of the New England Association of Gas Engineers have been running from June 18 to June 30, two courses in industrial gas application at the Massachusetts Institute of Technology. Fifty-five men were registered, representing all sections of New England, two men from New Jersey, one man from New York State, as well as a native of China, a graduate of Technology this past year. This man is interested in the gas business at Yang Chow, China.

The course was eminently successful, and the committee has every reason to believe will be the means of establishing more prominently the gas educational movement that is slowly but surely spreading throughout the country.

The lecturers were F. C. Freemen, of Providence, R. I., on "Coal and Water Gas Manufacturing"; C. I. Baker, of the Ruud Mfg. Co., Pittsburgh, Pa., on "Water Heating"; Dr. R. S. Williams, Prof. G. B. Wilkes, O. K. Bates, George Thompson and V. O. Homerberg, of the Institute Staff; H. L. Barnes, of the Hartford Gas Light Company, Hartford, Conn., on "Gas Furnaces"; M. B. Webber, of Boston, on "Low Temperature Ovens," and P. H. Taylor, of Leeds & Northrup, on "Thermo-Electric Instruments."

At a luncheon held Monday, June 25th, C. R. Prichard, chairman of the committee, presided and introduced Howard Coonley, president of the Walworth Mfg. Company and of the Boston Chamber of Commerce. At the closing of the course, C. I. Paige, a member of the committee, spoke, and E. Fred Cullen, president of the Johnson Educator Food Company, was the principal speaker. The talks by Mr. Coonley and Mr. Cullen were of an inspirational character and were intended to convey the sales thought to the men who had been drilled for the two weeks along technical lines.

A noticeable increase in the interest displayed by the staff of Technology in the matter of furthering gas education is a major result of the work that has been done these past two years.

A class organization was formed by the men who took this course. Mr. James H. Sumner, Cambridge Gas Light Company, Cambridge, Mass., is secretary of the class.

Joining Forces for More Sales of Gas Ranges and Water Heaters

One more step to impress the millions of visitors to the "Playground of America" with the advantage of gas and to keep its uses everlastingly before them, was taken by the Pittsburgh Water Heater Company and the Wm. M. Crane Company, at Atlantic City, N. J. The joint exhibit shown above is in the Central Pier Arcade, a centrally located, handsomely designed and decorated structure on the boardwalk.

In this exhibit a full line of Pittsburgh water heaters and Vulcan smoothtop compact cabinet gas ranges are on display with skilled demonstrators to present adequately the merits of the respective appliances to all interested and to boost the value of gas as a heating agent. It is comfortably and attractively furnished and the exhibitors extend a cordial invitation to all gas men and to their friends to make it their headquarters when visiting Atlantic City. The address is Store No. 1, Central Pier, Atlantic City, N. J.

Completes Erection of Purifiers

Erection work is now completed on the two 13 ft. 6 in. x 12 ft. purifiers complete with the Western type "DF" reversing valves recently ordered by the Public Service Company of Northern Illinois for their plant at Ottawa, Ill. These purifiers were furnished by the Western Gas Construction Company.

Installs New Model Stoker.

The Washington Gas & Electric Co., Washington Court House, O., has bought a new model Westinghouse underfeed stoker to fire a new 504 horse-power Heine boiler. The stoker is equipped with hollow forced draft dump grates and non-clinkering sidewall tuyeres which are active fuel burning surfaces. The refuse is discharged by steam operated dumping mechanisms. Crushed Ohio coal is supplied.

Gas Company Wins Again

One of the most successful bowling leagues operating in and around Pittsburgh came to a close recently when the Oil and Gas Duckpin League of Pittsburgh closed up its affairs with the Philadelphia Company team in the lead, with 78 victories out of 99 games rolled.

The standing of the teams, with outstanding features and the averages of the individual players, shows the Philadelphia boys playing a prominent part throughout. As soon as the season started, the lads jumped into the lead and were never headed.

Death of Mr. Joseph B. Hill

The sudden death on June 22 of Mr. Joseph B. Hill, Pittsburgh department manager for the Welsbach Company, was noted with regret. Mr. Hill had been connected with the Welsbach Company since 1888, and had been in charge of their Pittsburgh department for 25 years.

Joseph B. Hill

Returning home on June 17 from the annual managers' meeting of the Welsbach Company at Gloucester, N. J., Mr. Hill was taken ill on Wednesday of that week and died of pneumonia at 10 o'clock on Friday morning, June 22, at his home, 51 Lincoln avenue, Bellevue, Pa. Interment took place Monday morning at the family burying ground at Washington, Pa.

Mr. Hill was always most considerate of the welfare and happiness of those who served with him, and that he was highly esteemed and beloved in the Pittsburgh office was equally true throughout the company and among his host of friends. He leaves his widow, Mrs. Mattie Flender Hill; two sisters, Miss Bessie Hill, of Waterville, Me., and Mrs. A. Dupree, of New Bedford, Mass.

John A. Britton Dies

John A. Britton, president of the Pacific Gas & Electric Company, San Francisco, Cal., died on Friday, June 28.

His loss will be very much felt both by his own company, for which he has done a great deal, and by the entire gas industry.

DAYS' SUPPLY OF BITUMINOUS COAL IN HANDS OF VARIOUS CLASSES OF CONSUMERS IN THE UNITED STATES, JANUARY 1, 1919, TO JUNE 1, 1923*

(Figures represent number of days supply would last at current rate of consumption at time of stock-taking.)

	Jan. 1 1919	Apr. 1 1919	June 1 1920	Apr. 1 1921	Mar. 1 1922	Sept. 1 1922	Oct. 1 1922	Nov. 1 1922	Jan. 1 1923	Feb. 1 1923	Mar. 1 1923	June 1† 1923
By-product coke plants.....	32	23	8	28	39	11	14	18	19	20	19	23
Steel plants	42	35	11	38	48	12	17	21	27	26	26	29
Other industrials	65	47	24	47	56	32	33	39	40	36	34	39
Coal-gas plants	81	58	22	66	82	34	38	55	60	62	58	75
Electric utilities	49	48	22	48	54	26	30	32	33	35	34	45
Coal dealers, bituminous....	39	25	10	26	23	11	18	21	16	15	11	27
Railroads	32	‡	10	24	42	13	15	13	16	18	16	21
Total bituminous	42	31	15	36	43	17	21	23	26§	24§	22§	30§

*The figures in this table are estimates based on incomplete data. †See text for rate of consumption at which these figures were calculated. ‡No data. §Subject to revision.

Coal Gas Plants. The stocks at coal gas plants increased from a 58 days' supply on March 1 to 75 days' on June 1. This was nearly three and a half times the supply on June 1, 1920, and compared favorably with the probable stocks on the corresponding date in 1921. Coal gas plants usually carry much heavier stocks than other types of consumers, and the present days' supply is more than two and a half times the average for all consumers.

Natural Gas Men After Utah Business

Operators of the large natural gas wells in Western Wyoming are very active in their endeavor to get a foothold in the cities of Ogden and Salt Lake with pipes from the huge wells unearthed in the Baxter Basin. One of these wells is good for more than 80,000,000 cubic feet of gas daily, and as there are several wells making almost that quantity, the operators promise the Utah folks many good things. One of the greatest lures is that of cheaper gas. To bring this Wyoming gas to Utah will necessitate a pipe line more than 200 miles long.

Pushing the Sale of Gas Ranges

The Davis & Shaw Furniture Company, of Denver, Colo., is right in season pushing the sale of a well-known gas range. It will place the range in the home for $5 down and small monthly payments. As an incentive to get people to come to the store they say:

"Purposely prices are not quoted in this advertisement. We seek only the opportunity to demonstrate the advantages gained by buying here. Learn by Investigation. Save by Comparison."

In addition to the gas range, many household necessities are mentioned. The idea herewith is good and we pass it along for your consideration.

Water Gas Set to Be Installed

Shipments are now being made of the material for constructing a 6x5 x5 ft. water gas set complete with brick operating floor and model "H" reversing valve, steam turbine blower, coke bucket and cart, steam hoist, exhausters, condenser and two 15 ft. 6 in. x 12 ft. purifiers complete with connections for the Chambersburg Gas Company, of Chambersburg, Pa. All of this equipment is being furnished by the Western Gas Construction Co.

The new purifying equipment will be of the round steel duplex purifier type, purifier being 25 feet in diameter by 12 feet high and complete with 16-inch valves and connections.

Provision will also be made so that additional 25 foot diameter purifiers can be added in the future.

Seventy Representatives of Welsbach Company Meet at Gloucester, N. J.

With all the departments from San Francisco to Boston represented, the annual meeting of the District Managers of the Welsbach Company took place during the week of June 11-16. Plans for the coming season were discussed at each session of the meeting, and from the reports of the managers, a decided increase in business is to be looked for.

Annual Outing of Welsbach Department Managers

On Wednesday, June 13th, an outing and dinner were held at Alcyon Park, N. J., at which the accompanying group photograph of managers and factory men was taken. A baseball game—factory versus managers—resulted in a 10 to 3 victory for the factory. In the tug-of-war which followed the tables were turned, the factory team being pulled off their feet by the beef and brawn of the visitors. After all this strenuous exercise, some seventy men in all sat down to a chicken and waffle dinner. Songs and "prepared" impromptu speeches closed the evening.

The business session lasted throughout the entire week, the managers leaving for home on June 16th.

Voluntary Rate Cut

Indianapolis, Ind. — New gas rates were put into effect voluntarily at Hammond, Whiting and East Chicago, the Northern Indiana Gas and Electric Company announced. W. A. McInerny, attorney for the company, said the new rates average about 8 per cent less than the old rates and will reduce the company's gas revenue in the Hammond district approximately $58,000 a year. The formality of petitioning the public service commission for leave to reduce the rates and issuance by the commission of an approval order was in progress in the commission's offices.

The new rates begin with a rate of 60 cents flat for the first 400, or less, cubic feet of gas; for the next 2,600 cubic feet, a rate of $1.30 a 1,000 cubic feet is charged; next 47,000, $1.20; all over 50,000, 90 cents. This makes a monthly minimum of 60 cents.

The old rates began with a rate of $1.40 a 1,000 cubic feet for the first 30,000 cubic feet; $1.30 for the next 20,000; $1.20 next 25,000; $1.05 next 425,000; all over 500,000, 75 cents. The monthly minimum was $1.

The new rates provide also for an industrial rate. It consists of a demand charge ranging from 12 to 2 cents a cubic foot and an output charge ranging from 75 to 60 cents a 1,000 cubic feet.

The old rates were ordered into effect by the commission last September.

More Gas Used as Result of Impure Water

Greeley, Colo. — Orders of the city health department to boil all water used for drinking has boosted the daily consumption of gas in Greeley from 155,000 to 190,000 feet daily, according to Paul Darrow, manager of the gas company.

As the storage capacity is approximately 140,000 feet, the unexpected increase in consumption reduced the storage to such a degree that there was reduction of pressure. An additional bench of retorts is beginning to produce gas and this new production will more than take care of the abnormal consumption.

New Power Company Created

The Mississippi Power & Light Company has been incorporated under the laws of Maryland. The new concern will acquire rights, property and business of the Delta Light & Traction Company, of Greenville, Miss.; the Jackson Public Service Company, of Jackson, Miss.; the Vicksburg Light & Traction Company, of Vicksburg, Miss., and the Columbus Light & Power Company, of Columbus, Miss.

The owners of the properties listed were somewhat scattered, many living out of the state, and the properties were never thoroughly developed. The newly organized corporation, with H. C. Couch as manager, hope to bring the plants up to their full capacity both as to power and money making. Mr. Couch has successfully piloted the Arkansas Light and Power Company for ten years.

Elects Officers

Claremont, N. H. — The annual meeting of the Claremont Gas Light Company was held at their office on June 20, and the following officers were elected: Directors—Ira G. Colby, Claremont; A. W. Sulloway, Franklin; George A. Tenney, Claremont; D. Sidney Rollins, Newport; Herbert H. Webb, Claremont; Fred R. Thomas, Claremont. Ira G. Colby was elected president, George A. Tenney treasurer, Herbert H. Webb clerk.

An annual dividend of 6 per cent was declared on the capital stock

Installs New Equipment

The Madison (Wis.) Gas & Electric Company has bought another Westinghouse underfeed stoker unit. The installation will include the hollow blast dump grates, which are active fuel burning surfaces, line shafting, hangers, couplings, brackets, chains for connection between the line shafting and stoker speed shafts, side furnace doors, front inspection doors, Westinghouse non-clinkering sidewall tuyeres. The new tuyeres prevent corrosion of the sidewalls, while the preheated air issuing through them aids combustion. A new 1057 horsepower Stirling boiler has been purchased and Illinois screenings will be fired.

Construction Under Way for New Building at Danbury

C. E. Carter, vice-president and general manager of the Danbury & Bethel Gas & Electric Lighting Company, said that the work of constructing the new building for the addition to the gas plant and the installation of the equipment will require nearly a year's time and it is expected to have the plant in operation about June 1, 1924.

The equipment will consist of four benches of three-section horizontal gas ovens equipped with electrically operated coal and coke handling machinery. The capacity of this new equipment will be approximately 550,000 cubic feet of gas each 24 hours, which will practically double the company's present gas production capacity.

This equipment will carbonize approximaetly 50 tons of gas coal each 24 hours, and in addition to 550,000 cubic feet of gas, will make 20 tons of high-quality coke each 24 hours. This coke will be suited to domestic use. The equipment will be furnished and installed by the Improved Equipment Co., of New York City.

The new plant, which will produce coal gas, will be operated in conjunction with the present water gas plant, and the product of the two plants will be mixed before distribution through the company's mains. The new coal gas plant will be so designed that it can be extended to an ultimate capacity of two million cubic feet of gas each 24 hours, and this, in conjunction with the present plant, is expected to take care of the gas requirements of the city for a long time to come.

The building housing the new equipment will be erected on the property adjacent to the company's plant, now occupied by the large gas holder. The entire equipment will be of the most modern type.

Awards Contract for Generator

The Public Service Gas Company has awarded to the U. G. I. Contracting Company, of Philadelphia, contract for 11-foot generator, which will be installed at the Trenton, N. J., plant.

Muncie to Have New Gas Rate

Muncie, Ind.—A new gas rate for Muncie and Hartford City is expected to be authorized by the Public Service Commission soon.

The Central Indiana Gas Company has petitioned the Commission for leave to put into effect an artificial gas rate of from $1.25 to 75 cents a 1,000 cubic feet to replace the present natural gas rate of from $1 to 50 cents.

The Commission has indicated that the new rate will go into effect about August 1. The company told the Commission that it can no longer obtain sufficient natural gas to meet its patrons' needs, and wishes the new rate authorized now so it can begin preparation for operating its artificial gas plant at Muncie for the service of the two cities.

Asks Increased Rates

Lansing, Mich. — The Public Utilities Commission has ordered a hearing upon the application of the South Haven Gas Company for an increase in the gas rates of that city. The South Haven Company contends that because of present conditions it is unable to make a profit on its present rate and has asked permission from the state to raise its rates.

Gas Co. Plans Expansion

Ludington, Mich..—The addition of a condenser with capacity of 200,000 feet and the extension of approximately one mile of mains is the program of expansion to be undertaken this summer by the Ludington Gas Co., in which several Grand Rapids residents are interested. Facilities for doubling the capacity of the manufacturing plant are being planned for next year.

About one-half the main extension this year is to replace small pipes with an eight-inch main. The remainder is tapping new territory. About 1,000 feet of new mains have been laid in the Fourth ward of this city.

Awards Contract

The Gas Machinery Company of Cleveland, O., has just received contract to install coal gas benches with silica retorts and settings in the gas plants at Milford, Mass., and Charlottsville, Va.

These benches will be of the recuperative type and will be of the latest and most approved design.

Fulton County G. & E. Co. Wins Injunction Case on Final Appeal

Gloversville, N. Y.—The Appellate Division of the Supreme Court, Third Department, handed down a decision unanimously affirming with costs the judgment obtained by the Fulton County Gas & Electric Company against the Rockwood Manufacturing Company, restraining it from unreasonable use of the waters of the Caroga Creek. This makes the victory of the gas company over the Rockwood Company complete and permanent.

It will be remembered that in October, 1920, the Fulton County Gas & Electric Company brought an action against the Rockwood Manufacturing Company to obtain an injunction restraining the latter company from unreasonably using the waters of Caroga Creek. An injunction was granted by Justice E. C. Whitmyer, in the first instance and was continued by Justice H. V. Borst during the trial of the action. The trial, which occupied more than two weeks, was held before Justice Whitmyer in Schenectady. A large volume of testimony was taken on both sides and resulted in the Fulton County Gas & Electric Company obtaining a judgment against the Rockwood Manufacturing Company, wherein it was decreed that the Rockwood Company should immediately upon service of the judgment elect whether it would open and keep open or close and keep closed its gates. And that it must keep the gates so open or so closed permanently except that once in six months, after giving ten days' written notice to the Gas Company, it could change the gates of its dam from open to closed or closed to open, as the case might be, provided in making the change it did not waste the water or interfere with the operation of the gas company's plant.

The judgment also provided that in case the Rockwood Company should build a plant directly connected with its dam and to be operated by the water therein it might upon notice to the gas company apply to the court for a modification of the judgment.

The Rockwood Company appealed from this judgment to the Appellate Division of the Supreme Court and the appeal was argued last month in Albany and resulted in the Appellate Court unanimously sustaining the judgment in every particular.

The Fulton County Gas & Electric Company was represented throughout the trial and the appeal by Fred Linus Carroll, of Johnstown, and the Rockwood Manufacturing Company by John T. Norton, of Troy, and Benjamin McClung, of Albany.

Visit Gas Plant

Rockford, Ill. — Sixty members of the Rockford High School chemistry classes completed their year's work with an inspection tour of the Rockford Gas Light and Coke Company's plant here. They were conducted through the gas works, the chemical laboratory and the meter shops. The party was in charge of K. C. Jones, head of the science department.

Additional Purifying Equipment to Be Installed

The Beaumont Gas Light Company, Beaumont, Texas, has placed an order with the Gas Machinery Company, Cleveland, O., for a new purifying equipment to be used in connection with their present purifiers.

Returns and Gives Praise for Her Gas Range

Mrs. Elizabeth Eaton Draper, winner of the gas range, by the gift of the Denver Gas and Electric Light Company and the Denver News-Times, the woman who was judged the best cake maker during the recent gas range cooking contest held in Denver, writes the following letter:

"To the News and Times: It is my wish to say in the few and inadequate words at my command how thoroughly I appreciate the splendid opportunities I have enjoyed in connection with your cooking school contest. Not only do I thank your organization for the helpful instruction in such a practical field; but I can only marvel at the orderly arrangements and the courteous handling of a course which made it possible for so many of us women of Denver to be present and profit from the school. Since it was my good fortune to win the first grand prize offered by the Denver Gas & Electric Light Company, I am also writing to thank them for the beautiful kitchen range given in co-operation with you. This gas range certainly has lived up to every expectation since it was installed in my kitchen through their kindness."

All fair enough, but, as all first-class ranges will do the work, why not let's start one of our own, and as a further incentive to advertising the wonders of gas and gas ranges, let's give to the second and third winners a certificate good for a certain number of dollars as first payment on a gas range. Such advertising will pay, and the newspaper will be glad to give such news plenty of space.

Gas Situation at Amarillo Grows Better

So great are the outputs of gas wells being unearthed in the Panhandle section of Texas (Amarillo) that acreage which even up to a short time ago could have been bought for $5 or $7 an acre, has jumped to $15 and $50. It is not altogether the result of a "boom," but because of the fact that large gassers continue to award the drillers.

There are nine counties in the limelight, viz: Potter, Moore, Carson, Hutchinson, Roberts, Wheeler, Gray, Collingsworth and Donley, an area of about 300 square miles.

Coupled with the zeal of the oil and gas men is that of many manufacturing concerns contemplating the erection of plants, cheap fuel and good railroad facilities, an assurance if the gas wells prove lasting, and so far there is everything to prove that instead of abating the gas flows is increasing. It would be worth while for manufacturers of natural gas utensils to keep posted on daily events, and even right now to equip all homes with ranges and other necessities. Texas in the summer time is a sure enough hot place, and all housewives will welcome a gas range.

With the growth of the gas field all cities along the Panhandle branch of the Santa Fe Railroad, towns on the main line in all directions from Amarillo, the city of Amarillo, will grow, and so should the selling of gas utensils.

Combined Net Earnings Show Increase of 12.11 Per Cent

A gain of 15 per cent was registered by the operated public utilities of Standard Gas & Electric Company in net earnings, exclusive of depreciation for the twelve months ended April 30, 1923, as compared with the previous corresponding period. The increase in gross earnings was 8.95 per cent. This is a continuation of the splendid record of earnings these companies have shown over a long period of years.

Louisville Gas & Electric Company's gross increased 18.1 per cent for the twelve months ended April 30, 1923, while net earnings exclusive of depreciation gained 12.11 per cent. The Fort Smith Light & Traction Company's gross increased 12.8 per cent, while net increased 14.7 per cent, and Mobile Electric Company's gross gained 6.7 per cent, while net improved 13.2 per cent. San Diego Consolidated Gas & Electric Company showed a gain in net earnings of 9.3 per cent, against a decrease in gross of 5.2 per cent, and Southern Colorado Power Company's gross increased 7.4 per cent and net 17.0 per cent.

Cities Service Co. Report

New York, N. Y.—The statement of earnings of Cities Service Company for the year ending with May 31, 1923, shows marked improvement over the corresponding period in 1922, while the same improvement is shown in earnings for the month of May, this year, as compared with May of last year. Gross earnings for the 12 months period totaled $16,158,219, as compared with $12,926,120 in the preceding year. Net earnings were $15,665,347, as against $12,474,532, and after interest charges and dividends, net to common stock and reserves totaled $8,145,188, which was the equivalent of $17.50 a share, as compared with $5,438,587 in the preceding year, which was equal to $11.70 a share earned on the common stock.

In the month of May gross earnings were $1,589,994, as compared with $1,435,323 in May, 1922; net was $1,541,310, as against $1,404,210, and after interest and dividends $907,151 was earned on the common stock, as compared with $812,844 in May, 1922. The preferred dividend in the year ended with May 31, 1923, was earned 2.65 times, as compared with 2.11 times in the corresponding period of the year before. Net for the 12 months showed an increase over the 12 months ended April 30, 1923, from $8,050,881 to $8,145,188.

Board Approves New Gas Ratings

Albany, N. Y. — The new gas rates of the Albany Southern Railroad Company, which became effective June 2 in Rensselaer and Hudson, have been approved by the Public Service Commission along with the new rates of twenty-four other companies in the State. Albany is not affected.

The new rates provide for the discontinuance of a service charge of 75 cents a month. The old schedule included this charge plus $1.45 for each 1,000 cubic feet of gas consumed.

The present rates are: To 300 cubic feet, $1.00; for the next 700 feet, 16 cents a hundred; for the next 4,000 feet, 15½ cents a hundred; for the next 15,000 feet, 14½ cents a hundred, and for the excess over 20,000 feet, 13½ cents a hundred. A minimum charge of a dollar a month has been established.

These rates are increased for the use of 100 feet or less, and also between 1,800 and 23,000; but for those who use between 100 and 1,700 feet, or more than 23,000 feet, the rates are cheaper.

Colorado Incorporation

The Foothills Coal Company has been incorporated; capitalization, $100,000. The incorporators are Arthur Buckbee, Laurence B. Hall and A. J. Adler. Home office, Denver, Colo.

regulate public utilities, for the purpose of fixing rates and safeguarding the issuance of securities. Neither in the title nor in the text of the act is the purpose disclosed of authorizing the commission to enter into contracts as to rates with public utilities."

The fight over the Mobile Gas Company valuation started in 1922 when the figure was set at more than $1,900,000. The city of Mobile was granted a rehearing when the revaluation was fixed at $1,700,000. The gas company then took the case into the courts.

New Gas Bench Installed

Bristol, Va.—Facilities for the manufacture of gas at the gas plant of the Bristol Gas & Electric Company have been increased 50 per cent during the last 30 days by the completion of a new gas bench.

Officials of the company said that hereafter there need be no fear on the part of the residents of the two Bristols in so far as the gas supply is concerned.

The new gas making equipment is of the improved type and is designed to use an additional 60,000 cubic feet per day. The new bench was put on the lines recently and is now ready for a five-year run.

Additional Street Lamps Installed

The Welsbach Street Lighting Co. of America announces that the following cities installed additional street lamps during the month of May:

Essex County Parks, N. J.; Jersey City, N. J.; Brookline, Mass.; Cliff Island, Me.; No. Pelham, N. Y.; Florence, N. J.; Lake Forest, Ill.; Washington, D. C.; East Orange, N. J.; Passaic, N. J.; Quincy Shore, Mass.; Long Island, Me.; Rye Park, N. Y.; Spotswood, N. J.; Baltimore, Md.; Memphis, Tenn.

H. H. Jones Called One of Most Valuable of San Diego Citizens

H. H. Jones, president and general manager of the San Diego Consolidated Gas and Electric Company, is one of the seven most valuable citizens of San Diego, according to an analysis made by the San Diego Sun. "Public utilities," says the Sun, "in these days are volcanoes for the managers. There are the workmen to be negotiated with, the public to be dealt with, and the dividends to be paid.

"A man who can sit on the job of managing such a corporation, who has the co-operation of several hundred workers, the friendship of the public and the confidence of his employers— the individual who can sit on such a volcano, staying its eruption, must certainly be great.

"No corporation man in San Diego, to the mind of this bold dealer of laurels, so well meets this test as does H. H. Jones, general manager of the San Diego Consolidated Gas and Electric Company."

Interest in St. Louis Gas Co. Sold

Columbus, Mo.—The Watts Engineering Company of St. Louis, which has operated the Columbia Gas and Coke Company here the last fifty years, has sold its interests here to E. P. Locke and Wiley F. Corl, representing a syndicate of Mexico, Mo., men. The price paid for the plant was approximately $130,000. The managers announced that they plan extensive improvements.

Dividend Declared

Binghamton, N. Y. — Another quarterly dividend of $1.75 a share has been declared by the Binghamton Light, Heat & Power Company on its cumulative participating 7 per cent preferred stock, the dividends to be paid July 1. More than 1,000 shareholders, residents of Binghamton, Johnson City, Endicott and towns in this vicinity will participate.

As shown in the annual report, the company is in a satisfactory condition financially. Improvements and extensions to the company's system are now under way and there is every likelihood, company officials say, that the record of the last year, when the operating revenues passed the million dollar mark for the first time, will be excelled in 1923.

Utah Power Earnings

Utah Power and Light Company and Utah Light and Traction Company's combined statement for the year ending December 31, 1922, shows surplus of $1,288,372, after taxes, charges and reserve for renewals, as compared with surplus of $1,057,883 for the previous year. The combined comparative statement follows:

	1922	1921
Gross earn'gs.	$8,840,905	$8,531,001
Net after taxes	4,368,413	4,072,788
Other income.	165,666	90,798
Total, inc...	$4,534,079	$4,163,586
Interest, etc..	2,705,707	2,505,703
Renewal, etc., res.	600,000	600,000
Balance ...	$1,228,372	$1,057,883
Pfd. dividends	786,402	660,221
2nd pfd. divs..	216,930	288,050
Surplus	$225,040	$109,612

Earnings Grow

Spokane, Wash. — Net earnings of $9524 for May and $115,038 for the year ended May 31 are shown in the monthly report of the Spokane Gas Company, filed with Mayor Fleming by Manager Harry Warner. The net for the year is close to 10 per cent on the valuation of approximately $1,200,000 fixed for the gas plant by the state department of public works. The operating costs for May were $31,807 and for the year $395,255. The taxes for May were $3243 and for the year $37,365. The depreciation for May, included in the operating total, is $3228 and for the year $38,584.

Luther Gaston, the new manager of the Spokane Gas Company, arrived from Lebanon, Pa., to take charge of the property. Harry Warner, the retiring manager, will call a meeting of the board of trustees, at which he will tender his resignation, and Mr. Gaston will be elected as his successor. Mr. Warner will leave soon for his new post as manager of the Salina (Kan.) gas plant. He has been connected with the Spokane Gas Company since February, 1911, and manager since August, 1917.

Approve Bond Sale

San Francisco, Cal.—The Southern California Gas Company has been authorized by the railroad commission to issue and deposit with the trustee under its first and refunding mortgage, $546,000 face value of its first mortgage bonds, and to issue and sell at not less than 94.75 per cent of their face value, plus accrued interest, $2,500,000 of its first and refunding mortgage series "C" 6 per cent bonds due June 1, 1958.

The applicant is also authorized to use the proceeds from the sale of $848,456.58 of the first and refunding mortgage bonds to finance in part construction expenditures made prior to April 30, 1923, and to use the proceeds from the sale of $1,651,543.42 of said first and refunding mortgage bonds for such proposed as the railroad commission may hereafter authorize.

Yearly Statement Announced

Des Moines, Ia.—Extensions totaling four miles of gas mains and improvements amounting to $191,252.60 have been made by the Des Moines Gas Company during the past twelve months, it was announced.

A financial statement made public by the company indicates that the company has sold 401,760,798 cubic feet of gas since January 1, 1923, an increase over the same period last year of 43,008,200.

The operating revenue for the period ending May 31 shows a decrease of 10.44 cents per 1,000 cubic feet owing to the reduction made in the selling price of gas.

The operating expenses for the same period show a decrease of 10.78 cents per 1,000 cubic feet.

"Indications are that materials entering into the production of gas will advance in price," the statement says, "therefore we cannot predict lower costs during the balance of 1923."

The company's directors authorized the payment of the usual 2 per cent quarterly dividend on preferred stock.

Issues Financial Statement

A comparative statement of combined results of operations of the Public Service Corporation of New Jersey and subsidiary companies for the month of May and for the twelve months ending May 31 has just been issued. For May the operating revenue of subsidiary companies was $6,937,071.38, as against $6,276,164.70 in the same month last year, showing an increase of $660,906.68. The net increase in surplus before dividends was $823,907.06, as against $271,915.95 for the like period in 1922.

For the twelve months ending May 31, the operating revenue of subsidiaries was $81,485,854.80, an increase of $5,417,979.81 over the twelve preceding months, and the net increase in surplus before dividends was $6,171,644.25 as against $4,499,314.02, a gain of $1,672,330.23.